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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,619	05/31/2001	Goichi Katayama	FS.16969US0A	1768

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Knobbe Martens Olson & Bear LLP
2040 Main Street
Fourteenth Floor
Irvine, CA 92614

EXAMINER

CORRIGAN, JAIME W

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 06/26/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,619

Applicant(s)

KATAYAMA, GOICHI

Examiner

Jaime W Corrigan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-21,23-27 and 30-59 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3,5-19,21,23-27,30-36,48-52 and 55-59 is/are allowed.
- 6) ☒ Claim(s) 20,37-40,46,47,53 and 54 is/are rejected.
- 7) ☒ Claim(s) 41-45 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the Amendment filed on 16 April 2003. Claims 1, 5, 8, 12, 19-20, 23, 26, 30-31, 37, 46, 48 have been amended. Claims 4, 22, 28-29 have been cancelled. Claims 55-59 have been added. Overall, claims 1-3, 5-21, 23-27, 30-59 are pending in this application. The arguments with respect to the references applied in the first Office Action were deemed persuasive, however, a new non-final rejection is set forth below.

Claim Objections

Claim 56 is objected to because of the following informalities:

Claim 56 is dependent on claim 56. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20, 37-40, 46-47, 53-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura (PN 5,797,363).

Regarding claim 20 Nakamura discloses an internal combustion engine (See Abstract) for an outboard motor comprising at least one combustion chamber (Inherent

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in all internal combustion engines) formed by at least an engine body (See Figure 5 (12)), a cylinder head assembly (See Figure 5 (19)) and a piston (Inherent in all internal combustion engines) that moves relative to the engine body and the cylinder head assembly, a crankshaft (See Figure 3 (20)) that extends in a generally vertical direction and is coupled to the piston such that movement of the piston causes the crankshaft to rotate, a port (Inherent in all internal combustion engines) that is communication with the combustion chamber, a valve (See Figure 3 (17), (18)) moveable between open and closed positions of the port, a camshaft (See Figure 3 (15), (16)) that is journaled for rotation and extends generally parallel (See Figure 3 (15), (16), (20)) to the crankshaft, the camshaft including at least one cam (See Column 3 Lines 4-6) configured to open and close the valve, a rotor (See Figure 2 (35)) attached an upper end of the camshaft and being positioned for at least partial rotation (See Column 3 Lines 17-19) within a housing (See Figure 2 (39)), the rotor defining at least a first space (See Figure 2 (53)) and a second space (See Figure 2 (54)) within said housing, a driven member (See Figure 3 (26)) coupled to the housing, a drive member (See Figure 3 (25)) coupled to an upper end of the output shaft (See Figure 3 (20)), the drive member coupled (See Column 2 Lines 66-67, Column 3 Line 1) to the driven member such that rotation of the drive member is transmitted to the driven member, a control valve (See Figure 1 (32)) positioned within a common hydraulic passage (See Figure 4 (73), Column 4 Lines 14-16) having a first opening (See Figure 4 (69)) and a second opening (See Figure 4 (70)), and a first hydraulic passage (See Figure 4 (55)) and a second hydraulic passage (See Figure 4 (56)), the first hydraulic passage in communication with the first space

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(See Column 4 Lines 17-23) and the first opening (See Column 4 Lines 65-67) and the second hydraulic passage in communication with the second space (See Column 4 Lines 41-56) and second opening (See Column 4 Lines 65-67), the control valve (See Figure 4 (32)) being configured to selectively open and close the first and second openings (See Column 4 Lines 62-67, Column 5 Lines 1-3) such that hydraulic fluid is preferentially supplied to either the first space or the second space (See Column 5 Lines 4-22), the first (See Figure 4 (69)) and second openings (See Figure 4 (70)) being positioned generally at a common engine elevation (See Figure 4 (69), (70)) wherein the common passage (See Figure 4 (73), Column 4 Lines 14-16) is positioned generally along an axis that extends transversely (See Figure 4 (73) (12), Column 4 Lines 14-16) across the engine.

Regarding claim 37 Nakamura discloses an internal combustion engine for an outboard motor comprising an engine body (See Figure 3 (12)), a piston (Inherent in all internal combustion engines) movable relative to the engine body, a crankshaft (See Figure 3 (20)) that extends in a generally vertical direction and is journaled for rotation by the piston, the engine body, the piston and a cylinder head assembly together defining a combustion chamber (Inherent in all internal combustion engines), a port (Inherent in all internal combustion engines) in communication with the combustion chamber, a valve (See Figure 3 (17), (18)) movable between open and closed positions of the port, a camshaft (See Figure 1 (16)) that extends generally parallel to the crankshaft and is journaled for rotation to actuate the valve in a set angular position

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(See Column 3 Lines 4-6), a variable valve timing mechanism (See Figure 1 (11)) arranged to set the camshaft to an angular position between a first angular position (See Column 5 Lines 18-23) and a second angular portion (See Column 5 Lines 11-18), the first angular position being advanced (See Column 5 Lines 18-23) as compared to the second angular position, the variable valve timing mechanism comprising a setting section (See Figure 2 (39), (35), (37), (53), (54)), a supply section (See Figures 1, 4 (55), (56), (57)) and a control section (See Figures 1, 4 (32), (75), (69-74)), the control section comprising a control valve (See Figures 1, 4 (32)) that is disposed on along an axis that is generally perpendicular (See Figures 1, 4 (16), 32)) to the camshaft, the supply section comprising a first hydraulic passage (See Figure 4 (55)) and a second hydraulic passage (See Figure 4 (56)) that are in hydraulic communication with the setting section (See Figure 2 (39), (35), (37), (53), (54)) and the control section (See Figures 1, 4 (32), (75), (69-74)), the first hydraulic passage (See Figure 1 (55)) and the second hydraulic passage (See Figure 1 (56)) not extending through a generally horizontal plane (See Figure 1 (Not numbered but clearly visible) that contains a central axis that extends through the control valve (See Figure 1 (32)).

Regarding claim 38 Nakamura discloses the control valve (See Figure 4 (32)) is also positioned generally along an axis that extends transversely (See Figure 4 (32), (12)) across the engine.

Regarding claim 39 Nakamura discloses the control valve (See Figure 4 (32))

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is positioned near an upper end of the camshaft (See Figure 1 (16), (32)) .

Regarding claim 40 Nakamura discloses a bearing cap (See Figure 1 (33)) located near an upper end of the camshaft (See Figure 1 (16)), the bearing cap configured to cooperate with the cylinder head (See Figure 1 (19)) assembly so as to support the camshaft for rotation (See Column 3 Lines 17-18).

Regarding claim 46 Nakamura discloses a lubrication system (See Column 2 Lines 45-48) and lubrication passages (See Figure 1 (Not numbered but clearly visible)), the lubrication passages including a supply passage (See Figure 1 (55)) that is in communication with the control section (See Figures 1,4 (32), (75)).

Regarding claim 47 Nakamura discloses the supply passage (See Figure 1 (55)) is defined, at least in part, in the cylinder head assembly (See Figure 1 (19)).

Regarding claim 53 Nakamura discloses the port is an intake port (See Figure 5), the valve is an intake valve (See Column 2 Lines 49-50), and the camshaft is an intake camshaft (See Column 2 Lines 49-50).

Regarding claims 54 Nakamura discloses the port is an exhaust port (See Column 2 Lines 49-50), the valve is an exhaust valve (See Column 2 Lines 49-50) and the camshaft is an exhaust camshaft (See Column 2 Lines 49-50).

Allowable Subject Matter

Claims 41-45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-3, 5-19, 21,23-27, 30-36, 48-52, 55-59 are allowed.

Conclusion

Any inquiry concerning this communication from the examiner should be directed to Examiner Jaime Corrigan whose telephone number is (703) 308-2639. The examiner can normally be reached on Monday - Friday from 8:30 a.m. – 6:00 p.m. 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (703) 308-2623. The fax number for this group is (703) 872-9302. After Final (703) 872-9303.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.


JC

June 24, 2003

Jaime Corrigan

Patent Examiner

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THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700